

**IN THE DRAWINGS**

The second Office Action repeated the identical objection from the first Office Action, stating the drawings are objected to because in Figure 2, the word “RESIDIUAL” is misspelled, and should read “RESIDUAL.” Replacement sheets making this correction were provided in response to the first action, so no additional action was required for this Office Action. However, duplicate replacement sheets have been provided again (attached at the end of this response) in the event the previously supplied sheets were lost.

**R e m a r k s**

Claims 1-11 are pending in the application.

The drawings are objected to because in Figure 2, the word "RESIDUAL" is incorrectly spelled as "RESIDUAL."

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto et al. (U.S. Published Application 2002/0089724 A1, hereinafter "Nishimoto").

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto in view of Tanaka et al. (U.S. Published Application 2002/0131711).

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims

has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewriting to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

**Amendment to the Drawings**

A duplicate Replacement Sheet for Figure 2 is submitted as noted above, to correct a typographical mistake for the word "RESIDUAL". As such, the objection to Figure 2 should be withdrawn.

**Rejection Under 35 U.S.C. 103**

**Claims 1-9**

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto. The rejection is traversed.

According to MPEP §2143, to establish a *prima facie* case of obviousness under §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Applicant respectfully maintains that the Office Action failed to establish a *prima facie* case of obviousness, because Nishimoto fails to teach or suggest the claim elements.

Nishimoto is directed toward a method of compensating for dispersion effects in an optical transmission path by way of measuring the bit error rate (BER) of a received

signal, transmitting that BER information to a control circuit, and then specifying alterations to the optical transmission path (through variable dispersion compensation) to mitigate the observed dispersion-related BER effects (Abstract, par. 18).

The Office Action interprets Nishimoto as teaching the applicant's claimed "method for measuring residual chromatic dispersion in an optical transmission system." This is incorrect. Nishimoto does not measure dispersion. Utilizing BER, Nishimoto determines if an appropriate compensation for dispersion in the optical channel is in place. But, there is no measurement or characterization of the actual dispersion, much less the residual dispersion. Generally speaking, Nishimoto teaches a compensating method (that still leaves some residual dispersion), while the claimed invention concerns a measuring method. Moreover, the claimed invention measures "residual or net dispersion." The Applicant explains this type of dispersion with the following:

*"dispersion compensation modules do not compensate or effectively eliminate the chromatic dispersion within the system. There is still some uncompensated chromatic dispersion known as residual or net chromatic dispersion"* (page 3, lines 24-27, emphasis added).

Nishimoto *reacts* to bit errors arising from dispersion in the optical channel, by "changing optical characteristics of the optical signal input via the optical transmission path" (par. 18). The claimed invention, in contrast, is directed to "introducing a predetermined amount of chromatic dispersion at the *receive end* of the system; measuring a bit error rate for the system corresponding to the predetermined amount of chromatic dispersion; and iterating the introducing and measuring steps over a plurality of introduced chromatic dispersion values until the bit error rate is a minimum over all measured bit error rate, wherein the residual chromatic dispersion in the optical transmission system is represented by a complement of the introduced amount of chromatic dispersion at which the minimum bit error rate is achieved."

Nowhere in Nishimoto is the claim element of "introducing" chromatic dispersion taught, for any purpose. It would not stand to reason that introducing chromatic

dispersion *should* be taught in Nishimoto's either, since Nishimoto's teaches a dispersion compensation method, "so that bit errors of the optical signal are reduced" (par. 18, emphasis added), not the claimed "method for measuring" dispersion, where it is acceptable to add bit errors to the system for the purpose of analysis. Supporting this major difference in functionalities between inventions, is also the fact that all dispersion compensation adjustments being performed on "the optical transmission path" (par. 18) in Nishimoto, whereas all are directed at "the receive end of the system" in the claimed invention. Hence, in addition to the largely contrasting methods of the two inventions, the respective apparatuses of the two inventions are also very different.

Therefore, Nishimoto clearly does not anticipate the claimed invention, and the rejection should be withdrawn.

#### Claims 10-11

The combination of Nishimoto and Tanaka fails to teach or suggest all of the claim elements of independent claims 10 and 11.

Independent claims 10-11 are directed respectively to an apparatus and method for measuring the residual chromatic dispersion at an intermediate location in an optical transmission system.

For the same reasons set forth above, Applicant submits that claims 10-11 are also patentable under 35 U.S.C. 103(a) over Nishimoto.

Tanaka fails to bridge the substantial gap between Nishimoto and Applicant's invention of claims 10-11. Like Nishimoto, Tanaka also teaches a method/apparatus that adjusts for dispersion effects *in the transmission path*, but does not introduce chromatic dispersion for the purpose of measuring residual or net dispersion *in the system*. The same arguments as to why Nishimoto does not anticipate the claimed invention, therefore, also apply to Tanaka.

Subsequently, the rejection should be withdrawn.

**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

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